## VI. AVAILABLE MECHANISMS TO PROMOTE REGIONAL JOBS/ HOUSING BALANCE

This section explains possible strategies that cities can employ to encourage household production in jobs-rich areas and to attract "New Economy" jobs in housing-rich areas. The jobs/housing imbalance in the region is a complicated issue that deserves more attention beyond this paper. Further research is needed to determine which of the following strategies may be most appropriate for different cities and subregions within the SCAG region.

### A. Strategies to Encourage Housing Production

#### 1. Economic Inducements

Financial inducements to promote housing construction are the most obvious, but also most limited tool for local governments, and generally consist of Federal and State housing entitlement programs (HOME and CDBG), and local redevelopment funds. Communities can, and do, offer direct subsidies for specific developments.

Cities can and should encourage appropriate housing developments through local inducements. These inducements can take essentially three forms: economic (subsidy), land use, and regulatory (fees and development standards).

Economic inducements can be used either to encourage housing construction or to encourage job growth. In Riverside County, a package of economic incentives is being proposed that would make it attractive for developers to build housing with higher densities than the current average (Warkentin 2000). These inducements would allow the developer to build high-density housing and sell it at the market rate. Financial inducements that give developers density bonuses can be used to spur infill housing, more affordable housing, and higher densities. Cities can offer economic inducements for housing development in jobs-rich areas. Developers building in jobs-rich regions can be rewarded through financial incentives and developers desiring to build more housing in housing-rich regions can be discouraged through phasing additional housing growth with added job growth. Cities must make sure, however, that the incentives are fair enough so that all housing production does not stop and so that the housing that is produced is affordable. If cities impose development fees, a developer simply may pass the fee on to the buyer. This would drive the housing prices higher.

A city's land-use and zoning ordinances have a more indirect but equally powerful effect on housing development. Generally, in order to make housing development more attractive to developers, jurisdictions increase the maximum densities for specific sites or neighborhoods. This improves the economy of scale for developers, and makes projects feasible. Additionally, cities can make their zoning codes more flexible, for example by creating intermediate zoning categories, to spur development.

Finally, communities can increase development by improving the regulatory climate in which developers operate. Communities can do this by reducing or waiving fees, cutting down permit

processing time and easing excessive development standards. One particularly effective approach is to cut parking requirements, as discussed later.

All of these tools can be used as combined or stand-alone approaches to foster housing development in desired circumstances, such as near job sites or transit centers, or in an infill setting. Communities can use these approaches strategically to mitigate real or perceived negative impacts from additional development. For example, fees and development standards might be reduced only for developments that meet a specific policy objective, such as providing deep affordability or providing higher density near a transit stop.

Cities can promote both housing and jobs development through mixed-use development and transit-oriented development as they encourage developers to locate housing in areas where zoning permits both jobs and housing and in areas along transit routes. Financial inducements can focus this development into urban areas where transit lines already exist. Infrastructure investments are important, as there are often infrastructure deficiencies that need to be addressed before further development can take place. If local jurisdictions provide these investments, then the developer does not have to factor these costs into the cost of building housing. Infrastructure investments drive down the cost of building housing.

**2. Infill Housing Strategies**

Infill housing, defined earlier in this paper as housing that is built in urbanized areas on underutilized or vacant lots, is a necessary strategy for urban subregions, such as the City of Los Angeles. This report shows that Los Angeles and Orange Counties do not have enough raw, developable land to accommodate their projected population at current densities. When there is very little undeveloped land on which to expand, cities must look to reuse their existing developed acreage. This may entail taking abandoned lots and redeveloping them for housing, converting old buildings to new housing uses, adding to existing buildings, or tearing down existing buildings and rebuilding on the site. Infill housing is beginning to take shape in downtown Los Angeles. There is a 121-unit project underway in Grand Central Square in the heart of the historic core of the city (Skelley 2000). Some buildings in the old bank district of the city are being converted to residential loft apartments (Dublin 2000).

Cities can encourage infill development in various ways (Sargent 1994, Bragado et al 1995). Proactive planning that invites citizens to map out a vision for their community can bring the issue of future housing needs to the table and can help diffuse community opposition to much needed housing. A city can target and map infill sites so that developers will know what is available and so citizens will know where future housing may be built. Cities can also establish redevelopment areas around existing and proposed transit centers, as discussed in the section on transit-oriented development below. Local governments do not have to work on their own - they can collaborate with developers in joint developments to create infill housing. Development fees can be set to encourage infill and discourage sprawl.

Public perception of redevelopment and infill housing is often negative. Plans for infill housing can address these negative perceptions by conveying to the public that the housing is for people already living in the community. The new housing is for the adult children of the current

residents, so that they can live close to family. The new housing is for essential members of the community, such as teachers, police officers, and public servants who are getting squeezed out of the housing market by escalating prices. By conveying that the infill housing is for "us" and not the feared "them", communities can build support for infill housing (Benest 1991).

Another common misperception of infill housing is that it is unattractive and that it will lower property values. By sponsoring infill housing design competitions and by working with the residents of a community, planners and architects can design infill housing that is a valued part of a community. Taking citizens on tours of attractive infill housing is also valuable in changing public perception about infill housing. Education campaigns that promote the need for infill housing are important. City councilmembers that decide zoning restrictions need to be educated on the importance of infill housing in a community. They in turn can take this knowledge to their constituents. Citizen education and involvement is an important part of producing infill housing that is well received.

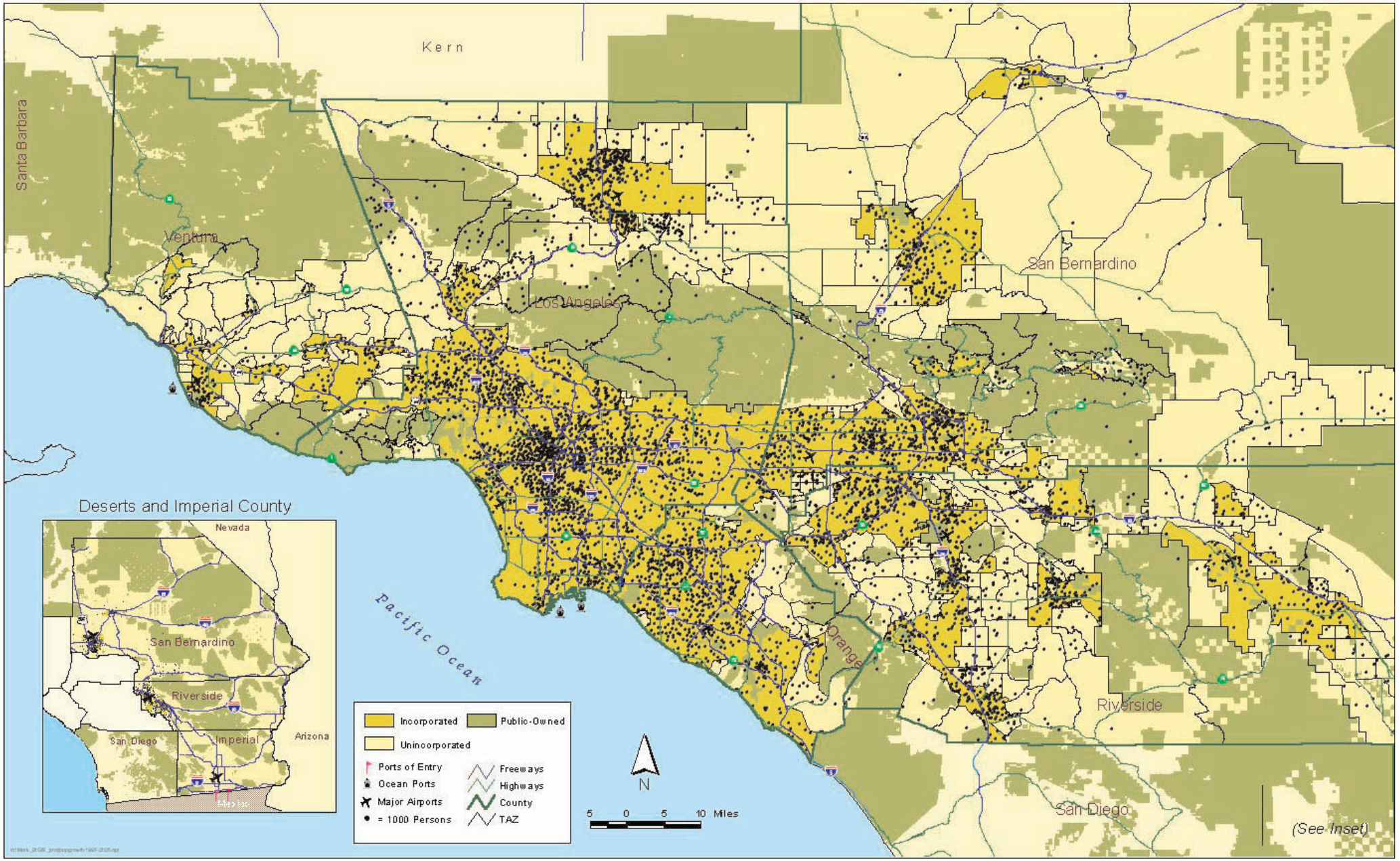
There are multiple ways that local governments can help promote infill housing, as cited in Suchman (1997). These strategies include:

- Create a planning framework that encourages infill development
- Review zoning ordinances, development regulations, and building codes to ensure that they encourage infill housing
- Provide high-priority processing of development approvals and permits to infill developers
- Make public investments and provide public services in neighborhoods targeted for infill development
- Provide potential developers with valuable information
- Prepare master environmental impact reports
- Assist infill developers with land acquisition and assembly
- Gain community acceptance for infill housing projects
- Help individual projects succeed
- Consider creative institutional solutions

As the population increases and as building activity does not nearly keep pace with the population increase, new housing strategies must be considered. Furthermore, continuing to build in the unincorporated areas of the region will tax the infrastructure, including roads, water, electricity, and other infrastructure. With one third of the future expected growth going to the unincorporated regions (Map 19), open space will diminish and traffic will get worse as more people use the highways to go from housing centers to job centers. By itself, infill housing is not the answer. However, it is an important component of an overall strategy toward providing enough housing for residents in urban areas of the region. It is a particularly appropriate strategy for helping to increase the housing supply in the jobs-rich counties of Los Angeles and Orange.

### 3. Parking Reductions

One of the simplest ways that communities can spur development of housing, particularly within the much-needed multi-family market, is to reduce parking requirements under certain conditions. Standard parking requirements (generally two off-street spaces/unit) can add




Source: 1990 Tiger and '98 Thomas Bros. for cities incorporated after 1990; SCAG Transportation Analysis Zones; SCAG Population Forecast, adopted October, 2000

# Map 19 - Population Growth in the SCAG Region by TAZ

## 1997 to 2025

SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS
December 2000

significantly to the cost of development. In the City of Los Angeles, for example, this can constitute an additional $25,000 in development cost per unit (Los Angeles City Housing Department 2000). Cities can not only create an incentive for private housing development by reducing these requirements, but also add value to transportation and service investments by linking parking reductions to transit and retail accessibility. Similarly, cities can effectively add housing, at no cost to the municipality, by looking at other planning and building standards that add unnecessary costs to the development process.

### 4. Brownfield Strategies

The common perception is that brownfield sites, when redeveloped, will once again be used for industrial purposes. However, this is not always the case. More and more examples are emerging throughout the country of brownfields being reused for residential purposes. Brownfield sites have been converted to residential uses in Massachusetts, Michigan, and Pennsylvania (ICF Consulting 1999) and New Jersey (Jacobs 2000). Because of New Jersey's Brownfield and Contaminated Site Remediation Act, the state can reimburse developers up to 75% of the developers' "remediation costs associated with the investigation, cleanup, and development of certain brownfield projects" (Jacobs 2000). Appropriate redevelopment of brownfield sites converts eyesores to productive lands while cleaning up potential environmental hazards.

Given a large enough piece of industrial property, communities can effectively utilize brownfields for both job creation and residential uses. In Atlanta, Georgia, a private developer, the City, the MARTA (mass transit), and the Federal Government have collaborated on the redevelopment of an obsolete steel mill. The completed project will provide office, retail, and light industrial employment, high and medium density residences, a park and open space. This project will create a self contained multi-use urban place within a larger metropolitan context. Similar opportunities may exist in southern California's urban counties. SCAG is presently planning an infill study report that will identify potential sites for reuse and infill housing throughout urban regions in the coastal counties.

### 5. Transit-Oriented Development Strategies

Transit-oriented development strategies have been implemented in various cities around the country and the concept has gained the attention of planners and decision-makers in the SCAG region. In particular, transit-oriented development that has a mix of uses around the transit node, including residential, commercial, and business, is catching on as a convenient way of life. Portland, Oregon has had success developing lands into residential and commercial uses around their light rail stations. Citizens enjoy the convenience of walking to transit stops and then riding transit to their destination. This trend is appearing in Los Angeles as well. There are seventeen transit-oriented developments that have been completed, are under construction, or are being planned in the Los Angeles area (Newman "Transit", 2000). These developments are building a mix of housing and commercial with higher than average densities. More housing is provided in urban areas through transit-oriented development, and greater transit patronage and increased mobility maximize returns on public investments in transit infrastructure.

There is no shortage of buyers for transit-oriented development projects. Problems arise with local residents who live in the neighborhoods in the vicinity of the transit-oriented development. Residents may fear the perceived negative impacts from higher densities. As stated in the infill housing strategy, developers need to educate the public on the benefits of transit-oriented development so that those currently living in the area around a new development do not oppose the project and try to block it. The Silicon Valley Manufacturing Group is a company organized to involve principal officers and senior managers of member companies in a cooperative effort with local, regional, state and federal government officials to address major public policy issues affecting the economic health and quality of life in Silicon Valley. The organization found that once residents saw how positive a transit village could be, they were embarrassed that they had not supported it from the very beginning (Guardino 2000). Transit-oriented development bring jobs and housing to a transit stop. Proponents must conduct a public outreach effort to ensure that the community will accept the new development.

The Location Efficient Mortgage (LEM) underwriting experiment, currently underway in the SCAG region, encourages residential opportunities in transit rich, urban areas. The LEM takes into account anticipated vehicle savings realized by a household when they choose to buy a home in a densely populated neighborhood with good access to jobs, services, and transit. The vehicle savings are used to assist in qualifying for a home loan, effectively increasing the affordability of established, urban neighborhoods. This creates a market-based incentive for individual households residing in older areas (which are generally more job rich), AND creates an incentive for the development of new transit oriented housing, because the LEM increases the pool of eligible buyers for a project.

**6. State and Local Government Finance Reform**

As described earlier in this paper, there is great competition among cities for commercial uses that generate sales tax revenues. Consequently, cities largely favor commercial establishments over housing in their land use zoning, permitting, and annexation decisions. Legislative tax reform is needed that changes the bias of cities against multifamily housing and reduces the competition between cities for sales tax generating uses. Currently, jobs-rich cities have little incentive to encourage developers to build housing. Housing that is built primarily caters to the higher income groups. The squeeze at the middle income and lower income groups for housing that is safe and affordable for their budgets will continue to get tighter and tighter. At some point, many low and moderate-income citizens will be priced out of the market. Legislators should recognize this serious issue, and enact legislation to reduce the competition for sales taxes through methods such as sales tax revenue sharing, as is being discussed in other regions of the state. While the $110 million designated to housing purposes this year is helpful; these are one-time only monies with no guarantee for future funding. One-time monies will not fix California's housing crisis. There needs to be a significant investment in time and money from the state over an extended period of time to begin to address the housing shortage. The housing crisis needs to be a top policy issue and it needs to be funded as a top policy issue.

The state needs to provide more property tax money to the cities so that cities have a stable and sufficient amount of funds to address the housing crisis. Going further, some of the money from the current state budget surplus could be returned to the cities to spark infill housing creation.

Cities receiving this money could provide the infrastructure for infill housing. While building infill housing is generally cheaper than building new housing on the periphery outside the current service area (Kanouse 2000); infill housing does not come at zero cost in terms of infrastructure. Infrastructure (water, sewer, power, etc.) within cities may be old and need replacement or it may not be designed to handle additional demand. Returning money to cities through state and local finance reform will give more money to cities to address housing issues such as infrastructure provision.

### 7. State and Federal Tax Credits and Other Incentives

Recent Federal and State funding processes for increasing the supply of housing have been marked by several positive developments, increasing the supply of funding for housing, and incentivizing smart development practices. These funding sources will need other tax incentives besides money to have the greatest effect on alleviating housing shortages.

First and foremost, Congress has increased the Statewide caps for both the Low Income Housing Tax Credit and the Private Activity Tax Exempt Bond Cap. Both of these programs, embedded in the tax code, provide invaluable financing for affordable housing development, but have been, in recent years, overwhelmed by demand. At one point, competition for Tax Credits in California was reduced to a lottery, with approximately 1 in 10 highly qualified projects receiving funding. The increases from $1.25 per capita, to $1.75 per capita for Credits, and from $50 to $75 per capita for bond activity, help dramatically, but will still will not nearly meet demand. The amount of funds available to SCAG counties through these programs is shown in Table 22.

Table 21

**Federal Funds Available to SCAG Counties to Promote Housing Development**

| County/State | Population 2000 | Low Income Housing Tax Credit | Private Activity Tax Exempt Bond Cap |
|---|---|---|---|
| Imperial | 145,285 | $254,249 | $10,896,375 |
| Los Angeles | 9,884,255 | $17,297,446 | $741,319,125 |
| Orange | 2,828,351 | $4,949,614 | $212,126,325 |
| Riverside | 1,522,855 | $2,664,996 | $114,214,125 |
| San Bernardino | 1,689,281 | $2,956,242 | $126,696,075 |
| Ventura | 756,501 | $1,323,877 | $56,737,575 |
| California | 34,336,091 | $60,088,159 | $2,575,206,825 |

Source: California Department of Finance

With the passage of Assembly Bill 2864 (Torlakson), the State has joined in offering economic inducements to build housing. This bill allocates over one hundred million dollars to address the jobs housing imbalance. The state rewards cities with money for building more housing than their housing element states. The money can be used on capital outlay projects such as parks and civic centers. Another provision of this bill is to encourage housing rich areas to recruit new businesses. Finally, the bill provides money to establish regional partnerships to address the jobs/housing situation in a region. The governor's proposed budget includes a $200 million augmentation for the Jobs/Housing Balance Incentive Grants (allocated $97 million through AB

2864). These funds can be used at the jurisdiction's discretion instead of only for community infrastructure, as the first $97 million is designated.

Another positive development involves the leadership shown by Treasurer Phil Angelides. The Treasurer chairs committees that allocate the Tax Credit and Bond programs discussed above, and exert influence over other State funding priorities. Treasurer Angelides has incorporated Smart Growth principles into the policy processes that his office controls, meaning that many of the State's discretionary resources will support jobs/housing balance, housing in transit rich areas, and other similar goals.

Given these developments, there is still a shortage of emphasis placed on jobs/housing balance issues at the State and Federal levels of government, and still inadequate supplies of funding fully address the problem.

**8. Mixed-Use and other Zoning Revisions**

Areas that are jobs-rich and have an excess of vacant land that is zoned for commercial and industrial uses in light of past development trends should reevaluate their zoning policies. Overlaying residential zoning in commercial and business areas will allow workers to live near their place of employment. The residential zoning in commercial areas will also provide a customer base to support the retail establishments. Zoning changes that convert land zoned exclusively for commercial and industrial uses to mixed uses would preserve some job creating potential for the land, while allowing for housing construction in close proximity to the potential jobs. Increasing the amount of vacant land zoned for housing gives residential developers more development options, particularly for much needed infill housing in urban areas. This lowers development costs since more land is available for housing construction, including land that has relatively few limitations to development. Consequently, with more vacant land that is zoned for residential development, the construction of a greater amount of affordable housing becomes a possibility.

## Laws that Help Promote Housing Construction

**Housing Element Law** (Gov. Code Sec. 65580 et seq.) Every city and county must adopt a housing element as part of its general plan. Most importantly, a housing element must identify sites appropriate for affordable housing and address governmental constraints to development.

**Pro-Affordable Housing Law** (Gov. Code Sec. 65589.5). State law prohibits a local agency from disapproving a low-income housing development, or imposing conditions that make the development infeasible, unless it finds that one of six narrow conditions exist.

**Prohibition of Discrimination against Affordable Housing** (Gov. Code Sec. 65008). This statute forbids discrimination against affordable housing developments, developers or potential residents by local agencies when carrying out their planning and zoning powers.

**California and Federal Fair Housing Laws.** The California Fair Employment and Housing Act (Gov. Code Sec. 12900 et seq.) expressly prohibits discrimination through public or private land use practices and decisions that make housing opportunities unavailable. Similarly, the federal Fair Housing Act (42 U.S.C. Sec. 3601 et seq., or "Title VIII") has been held to prohibit public and private land use practices and decisions that have a disparate impact on the protected groups.

**Water/Sewer Service** (Gov. Code Sec. 65589.7). Local water and sewer districts must grant priority for service hook-ups to projects that help meet the community's fair share housing need.

**Density Bonus Law** (Gov. Code Sec. 65915-16). Local governments must grant projects with a prescribed minimum percentage of affordable units, a 25% increase in density and at least one incentive.

**Permit Streamlining Act** (Gov. Code Sec. 65920 et seq.) This law requires cities and counties to publish a description of the information that project applicants must file and mandates a timeline for making a decision on the application. If the local government fails to act within the prescribed time limits, a development project is "deemed" approved.

**Bonds/Attorney Fees in Affordable Housing Lawsuits.** A court may require persons suing to halt affordable housing projects to post a bond (Code of Civil Procedure Sec. 529.2) and to pay attorneys fees (Gov. Code Sec. 65914).

**CEQA Exemption.** In 1997 the Legislature enacted AB 175 (Torlakson), amending Pub Res. Code Sec. 21080.14, to provide that in an urbanized area, affordable housing developments of not more than 100 units are exempt from CEQA, provided the site is, among other things, less than 5 acres, not a wildlife habitat and is assessed for environmental contaminants.

Source: Rawson 2000.

## B. Strategies to Attract New Economy Jobs

There are certain key elements in a region needed for high tech companies to take root. Some of the needs of regions that are addressed here, as identified by DeVol (1999), are:

- Research institutions and centers, both academic (universities and colleges) and government-sponsored (Jet Propulsion Laboratory)
- An educated workforce (high percentage of workers with post-secondary degrees, and well prepared workers with high school diplomas)
- Access to venture capital (venture capital firms investing in the region)
- High–tech infrastructure (fiber optic cable)
- Access to reliable international air transportation (both commercial and cargo)

These mechanisms are discussed below.

### 1. Targeted Education and Research

Education is widely believed to be a major factor in advancing one's career and increasing one's earning potential. It comes as no surprise that the areas with the highest amounts of venture capital investments in the SCAG region are areas with highly educated populations. The Irvine area, the West Side of Los Angeles including parts of Ventura County, Pasadena, and the South Bay are where the census tracts show students with well above or somewhat above the state average in standardized test scores live. These areas have the highest percentage of students that graduate from high school and have the highest number of citizens with a college education. High-tech industries are attracted to these areas, as an educated workforce is the raw material needed by new economy firms.

The Inland Empire does not have the highly educated workforce found in cities near the coast. It has lower high school graduation rates and lower university education rates. Average math test scores for primary and secondary student in Riverside and San Bernardino Counties are below the state average (University of California-Riverside (UCR) 2000). From grade 2 through 11, Stanford 9 Math Scores in Riverside and San Bernardino Counties are lower than competitor counties in every grade. Sacramento, Stanislaus, Sonoma, and Ventura Counties, seen as Riverside and San Bernardino's competition for high-tech industries, all have higher test scores (UCR).

Nevertheless, there are numerous universities and colleges in or near the Inland Empire that can provide a platform for higher educational achievement. Several of these are concentrating on programs and curricula that will increase the number of high-tech students in the region. These include the University of California-Riverside, California State Polytechnic University – Pomona (Cal Poly Pomona), the Claremont Colleges, Harvey Mudd College, Loma Linda University, and the Keck Graduate Institute. Loma Linda University and the Keck Graduate Institute are centers for biotechnology research and are producing graduates who go on to establish innovative biotechnology firms. Cal Poly Pomona is encouraging aerospace research through its NASA Commercialization Center. There needs to be a bridge between primary and secondary education and higher education to insure a steady flow of capable workers for high technology

firms. The Inland Empire also needs to find ways to better keep its graduates in the area so as to encourage new economy business growth.

### 2. Community-Based Job Training

The Inland Empire and other subregions within SCAG that are not benefiting from the boom in venture capital investment and New Economy job growth should consider community-based job training. For instance, San Bernardino County does not forecast a large number of new jobs in the high-tech field by 2002, but rather the occupations with the greatest absolute job growth will be in the service sector and transportation sector. Cashiers, light truck drivers, general managers and top executives, retail salespeople, and heavy truck drivers are the top five projected occupations for 2002. The need for truck drivers shows that the region is on its way toward becoming even more of a transportation center than it is today. Cashiers and salespeople will be providing services to the projected boom in population in the area. Besides the managers and executives, none of these jobs command a high salary or demand much advanced training.

Not all employees will be able to return to the traditional school setting for retraining. Job training that targets the high-tech industries is needed to help speed the economic transformation of outlying areas of the region. Young college graduates should not be the only employees taking advantage of the New Economy. Older workers who may be displaced by the New Economy should have training options available to help make them employable by high-tech firms.

### 3. Directed Venture Capital Investment and Incubation Strategies

Another strategy to attract New Economy jobs is to channel venture capital investment to a region. For example, the City of Oakland has embarked on an innovative program to lure high-tech industries to its area. When selling land to start-up firms, the city accepted warrants for the purchase of stock options in the future (Newman, "Oakland" 2000, 12). In the case reported in "Oakland Shows How to Gain Tech Attention", the city had previously bought land at $9.39 an acre, then sold it to a tech firm for $9.50 an acre, plus possible stock options in the future. While the city might have been able to sell the land for more money, the city broke even without the stock options. If the company continues to perform like it has, the city may have a windfall of money through its stock options.

The Riverside Regional Technology Park could be the perfect place to try to replicate was Oakland is doing. The Park offers the opportunity for similar industries to cluster near each other. UC-Riverside graduates 2,000 students a year. Enrollment is expected to double by 2010. These students can seek employment in the University Research Park. The University of California has made $40 million available in matching grants on a yearly basis for companies in the University Research Park. It consists of 39 acres in the Riverside Regional Technology Park, an 856-acre industrial park in Riverside. Located only 20 miles from Ontario International Airport, the industrial park has ready access to the 215, 60, and 91 freeways, and can provide the foundation for high-tech industry to take root. A new technology corridor could appear between Ontario, San Bernardino, Riverside, and Redlands because of the excellent supply of transportation networks, colleges graduating trained workers, and with three international

airports set for expansion (i.e. Ontario International, San Bernardino International, and March Global Port).

There are two other planned technology parks in the area, the Pomona Technology Center, scheduled to open in September of 2001, and the Tec Parc that is still in the planning phases at the former Norton Air Force Base in San Bernardino. Reports cite that these high technology parks will have plenty of tenants in the future due to numerous small start-up high-tech businesses (Husing 2000). These technology parks will act as incubators that will nurture and guide the small high technology businesses as they expand.

A key ingredient for high-tech industries is the existence of venture capital firms in the area. A listing of Southern California venture capital firms can be found at http://www.firsttuesdayla.com/. None of the firms listed for southern California are located in the Inland Empire. They all are clustered in the Los Angeles/Santa Monica/Bay Cities area and the Irvine area. The northern California listing of venture capital firms dwarfs the southern California listing. This could have serious ramifications, as "Without a well-functioning venture capital infrastructure, a region's technology cluster is at risk of not achieving its potential" (DeVol 1999, 46). Venture capital firms may invest in other areas of the country or the world. However, most invest within their own regions. Inducing more venture capital firms to invest within the SCAG region through regional marketing efforts will help spur the development of more high-tech companies and clusters.

**4. Fiber Optic Cable Investments**

As discussed in Section V of this report, the availability of fiber optic telecommunications infrastructure with redundant cable and backup power systems is an important siting requirement for high-tech firms. Currently, fiber optic cable is not distributed uniformly across the region, and is most prevalent where high tech clusters have established themselves, primarily in coastal areas. The success of outlying regions in establishing targeted access to high-speed, broadband fiber optic systems will greatly determine their ability to attract New Economy high-tech firms.

The greatest challenge for most local governments interested in attracting New Economy firms is to complete the "last mile" of fiber optic cable extensions from main lines and into buildings. Modernization of telecommunications networks also requires the installation of digital switching equipment for routing electronic transmissions more efficiently. These investments are typically made by the private sector, primarily phone companies. However, a number of local governments around the country have funded local fiber optic cable systems in partnership with the private sector. For example, in 1997, the city of Palo Alto in the Bay Area constructed a $2 million, 15 mile-long fiber optic ring beneath suburban streets that terminates at Digital Equipment Corp's Internet Exchange. The fiber optic network comes within one mile of every home and business in the city (Markoff 1997). Cities can also encourage local fiber optic investments by providing incentives for developers to wire buildings for fiber optic service through their zoning and permitting functions, and by providing public transportation and utility rights-of-way to fiber optic providers.

## 5. Airport Investment and Promotion Strategies

Ontario International Airport is projected to have a much larger role in passenger and freight transportation in the next twenty years. The projected route of the proposed Maglev high-speed system rail is through Ontario International Airport and March Global Port in the Inland Empire, connecting the region with Union Station and Los Angeles International Airport. With 6.4 million passengers in 1995, the 1998 Regional Transportation Plan forecasts that Ontario International Airport will expand to 15.3 million annual passengers by 2020 (SCAG 1998, I-43). Recent model runs conducted for SCAG's 2000 Regional Aviation System Study forecast that Ontario would serve over 33 million passengers and over 2.7 million tons of cargo if El Toro is not converted to commercial aviation use, even with an expansion of LAX. This dramatic jump in passengers and cargo service in Ontario will bring additional business to the region, as the businesses are attracted by the much larger portfolio of non-stop international and domestic flights and lower air fares resulting from increased airline competition. Companies participating in global trade, as well as rapidly expanding e-commerce activity will also be attracted to the expanded cargo service at Ontario in conjunction with its superior intermodal facilities.

It is also forecast that passenger service could be accommodated at San Bernardino International (formerly Norton AFB), March Global Port (formerly March AFB) and Southern California Logistics (formerly George AFB) airports. More likely, some or all of these facilities will serve as all-cargo airports (Southern California Logistics already has all-cargo service). This is important since air cargo volumes are expected to triple over the next twenty years, and existing airports in urban areas have limited capacity to accommodate those volumes. The presence of increased all-cargo handling capability in the Inland Empire, in conjunction with the excellent intermodal facilities and available land for warehousing development, should be very attractive to companies engaged in international trade activities. Companies engaged in e-commerce activities and high-tech manufacturing would also be attracted to locate around these potential all-cargo airports, since they produce high-value and/or time-sensitive products that are conducive to air transport.

Strategies to help promote airport development in the Inland Empire primarily involve: programming needed ground access projects in the RTIP/RTP for these airports; mitigating environmental impacts to the extent possible, particularly noise and air quality impacts; conducting marketing programs to make airlines and the travelling public aware of them as regional airport alternatives; and working with the FAA so that they are given high priority for airport improvement funds.

Airports help stimulate economies because of "increased employment, more visitors who spend more money locally and a heightened attractiveness to new businesses that consider convenient, frequent and cost-effective air travel when deciding where to locate" (Friedheim Jr. and Hansson 1999). The Inland Empire can use the expansion of its airports, the knowledge of its university students, the Regional Technology Park, and an excellent highway transportation system to lure high-tech industries to its region.

Expansion of Palmdale Airport also has the potential to serve as a catalyst to the economic rejuvenation of North Los Angeles County, to provide more high-paying jobs to local residents.

Growth of the airport will occur in tandem with the continued migration of white-collar professional jobs to the Santa Clarita Valley from the San Fernando Valley, the continued resurgence of the aerospace industry in the Antelope Valley, and the continued expansion of cargo-handling firms in North Los Angeles County. There will likely be a synergistic "feedback" relationship between the growth of such activities and the greater economic role of Palmdale Airport. As these activities grow, they will create a greater demand for airport services. As the airport expands to meet that demand, a more substantial, full-service Palmdale Airport will stimulate air cargo, high-tech and aerospace companies in turn to locate and expand in North Los Angeles County. Ground access improvements to Palmdale Airport that are designed to increase its accessibility and marketing efforts to attract initial airline service to Palmdale Airport are strategies that are currently being implemented by Los Angeles World Airports.